



Art Unit: 2872

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas Burton on October 19, 2005.

The application has been amended as follows:

20. A method for fabricating the micro-mirror which comprises [wherein further comprising the steps of]:

- a mirror section for reflecting an incident light;
- a hinge section including a fixed section and a movable section each having a flat surface;

- a drive means having a bi-morph structure made of two or more materials having different heat expansion coefficient for deflecting said mirror section of a relative angle to said incident light; wherein

- said hinge section and the mirror section are integrally constructed by a structured film formed on a semiconductor substrate by utilizing crystal anisotropy of said semiconductor substrate;

- said movable section of the hinge section is formed as to be continuous from said fixed section of the hinge section and is formed so as to construct a bent slanting surface at an extended section of the fixed section of the hinge section;

- comprising the steps of:

- forming a first groove having a first skewed surface at a side wall on a front surface of said semiconductor substrate, and a second groove having a second skewed surface substantially parallel to said first skewed surface of the first groove at a position and opposite to a flat surface section around said first groove on a back surface of said semiconductor substrate;

- forming structure films at said first skewed surface of the first groove and said flat surface section around said first groove;

- forming a first drive film at one surface of said structured film;

- forming said mirror section and said hinge section made of the structured film by removing said semiconductor substrate with etching process after performing a through-hole etching of said semiconductor substrate to make one end of said structured film to be a free end at a bottom section of said first groove [and];

Art Unit: 2872

forming a second drive film on another surface of the structured film constructing said hinge section;

forming a metal film on said structured film constructing said mirror section and the hinge section; and

forming a reflection film and an electrode pad for supplying current to said reflection film by selectively etching said metal film.

The following is an examiner's statement of reasons for allowance:

Regarding claim 20, the prior art of record fails to teaches or suggest a bi-morph hinge section further comprising a metal film on the structured film constructing the mirror section and the hinge section and forming a reflection film and an electrode pad for supplying current to the reflection film by selectively etching the metal film.

Claim 21 depends from claim 20 and is allowable for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318.

The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP 



**THONG NGUYEN  
PRIMARY EXAMINER  
GROUP 2800**